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Frank Joseph Pompei

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EXAMINER

PAUL, DISLER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/697,208	Applicant(s) POMPEI, FRANK JOSEPH	
	Examiner DISLER PAUL	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11;13;15-32;34;36-37;39;41-42;44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11;13;15-32;36-37;39;41-42;44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

The examiner has not received the terminal disclaimer as indicated, thus the double patent rejection is maintained.

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 22 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10, 14 of U.S. Patent No. (US 7,391,872).

(US 10,697,208).	(US 7,391,872).
1: (previously presented) A system, comprising: an <u>electronic entertainment system including at least one source</u> of audio signals, the audio signals corresponding to at least one audio channel; <u>and</u> <u>a directed acoustic sound system</u>	1. <u>A parametric audio system for generating at least one airborne</u> audio beam, comprising: at least one audio signal source configured to provide at least one audio signal, <u>a modulator</u>

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<p><u>including: a modulated signal generator configured to generate an ultrasonic carrier signal modulated with at least one of the audio signals;</u> a driver amplifier configured to amplify the modulated ultrasonic carrier signal; and at least <u>one directional loudspeaker, the directional loudspeaker including at least one acoustic transducer configured to receive the modulated ultrasonic carrier signal amplified by the driver amplifier, and to project a sound beam representing the modulated ultrasonic carrier signal through a propagation medium along a pre-selected path to reproduce the at least one audio signal along at least a portion of the path</u></p>	<p><u>configured to receive the pre-distorted signal and to convert the pre-distorted signal into ultrasonic frequencies;</u> and an acoustic transducer array including plurality of acoustic transducers, the array being configured to receive the converted signal and to project the converted signal <u>through the air along a selected path, thereby inverting distortion in the projected signal and regenerating the audio signal along at least a portion of the selected path.</u></p>
<p>22. (previously presented) A method of reproducing audio signals, comprising the steps of providing at least one audio signal by at least one audio source <u>included in an electronic entertainment system, the at least one audio signal corresponding to at least one audio channel;</u> <u>generating an ultrasonic carrier signal modulated with the at least one audio signal by a modulated signal generator included in a directed acoustic sound system;</u> amplifying the modulated ultrasonic carrier signal by a driver amplifier included in the directed acoustic sound system; receiving, by at <u>least one directional loudspeaker included in the directed acoustic sound system, the modulated ultrasonic carrier signal amplified by the driver amplifier, the at least one directional loudspeaker including at least one acoustic transducer; and</u> projecting, by the at least one <u>directional loudspeaker, a sound beam representing the modulated ultrasonic carrier signal through a propagation medium along a pre-selected path</u> to reproduce the at least one audio signal along at least a portion of the path</p>	<p>10. The parametric audio system of claim 1 further including at least <u>one driver amplifier coupled between the modulator and the acoustic transducer array and configured to receive the converted signal, wherein the</u> converted signal is an undivided signal, wherein the driver amplifier is further configured to generate an amplified signal representative of the undivided converted signal, and a matching filter configured to compensate for a frequency response of the combination of the acoustic transducer array and the driver amplifier.</p>
	<p>14. The parametric audio system of claim 1 further including at least one <u>driver amplifier configured to receive the modulated carrier signal and to generate an amplified signal representative of the modulated carrier signal,</u></p>

Re claims 1, 22 Pompei (US 7,391,872) teach everything but differ in that the claim of instant application is simply a wording variation of the Patented claim (for example, electronic entertainment system with source, and directional loudspeakers as in audio source and parametric).

2. Claims 36, 41 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10, 14 of U.S. Patent No. (US 7,391,872) and further in view of Sasaki (US 6,807,281).

Re claims 36, 41 Pompei (US 7,391,872) teach everything but differ in that the claim of instant application is simply a wording variation of the Patented claim (for example, electronic entertainment system with source, and directional loudspeakers as in audio

source and parametric) and further while, Pompei fail to disclose of the system comprising a telephone system and a receiver.

But, Sasaki et al. disclose of a system with directional speaker wherein having such a telephone system including a receiver (fig.17; col.16 line 20-32/telephone with receiver to receive audio signal and output such signal to listener) so as to provide the user with audio communication. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art with implementing the telephone system including a receiver so as to provide the user with audio communication.

Response to Arguments

in regard to the applicant's argument as in claim 1, wherein the prior art fail to disclose of such "an electronic entertainment system including at least one source of audio signals", such argument has been fully considered and is non-persuasive.

Since, as specifically disclosed Pompei disclose of such "an electronic entertainment system including at least one source of audio signals" ("fig.1/(101-102);par[0022]; par[0006,0040]-inherently such a system with an audio source is an electronic

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entertainment system since the system have **audible/steerable**
sound to be output to be listened by a listener so as to be
entertained").

Similarly, the applicant's challenged of the examiner's official notice as in regard to claim (36; 41) have been considered and now rejected over new prior art to demonstrate of the well known feature.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 8-9, 18-19, 22-24, 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Pompei ("US 2001/0007591 A1") .

Re claim 1, Pompei discloses a system for reproducing audio signals, comprising: an electronic entertainment system including at least one source of audio signals, the audio signals corresponding to at least one audio channel ("fig.1/(101-102);par[0022]; par[0006,0040]-inherently such a system with audio sources is an electronic entertainment system since system have **audible and steerable sound to be output to be listened by a listener so as to be entertained**"); and directed acoustic sound system including: a modulated signal generator configured to generate an ultrasonic carrier signal modulated

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with at least one of the audio signals ("fig.1 (112,114); par[0022-0024] line 7-9; par [0023,0035; 0004]"); a driver amplifier configured to amplify the modulated ultrasonic carrier signal ("fig.1/(118);par[0023]"); and at least one directional loudspeaker, the directional loudspeaker including at least one acoustic transducer configured to receive the modulated ultrasonic carrier signal amplified by the driver amplifier, and to project a sound beam representing the modulated ultrasonic carrier signal through a propagation medium along a pre-selected path , thereby reproducing the at least one audio signal and generating directional sound along at least a portion of the path("fig.1 (122); par [0023; 0033; 0039]/output signal along a certain directional path").

Re claim 2, the system of claim 1 wherein the audio signals correspond to a plurality of audio channels (fig.1 (101-104)), wherein the at least one directional loudspeaker comprises a plurality of directional loudspeakers, and wherein a separate audio channel is provided for each directional loudspeaker ("fig.2a;par[0025]/plurality of transducers to generate such audio signals").

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Re claim 3, the system of claim 1 wherein the audio signals correspond to a plurality of audio channels, and wherein the modulated signal generator is configured to combine the plurality of audio channels and to generate the ultrasonic carrier signal modulated with the combined audio channels ("fig.1/(110-114);page 2[0022] line 13-27").

Re claim 8, the system of claim 1 wherein the acoustic transducer is selected from the group consisting of a piezoelectric transducer, an electrostatic transducer, a PVDF film transducer, and an electrostrictive film transducer ("par[0004; 0025]").

Re claim 9, the system of claim 1 further including a delay circuit configured to apply a relative phase shift across a plurality of frequencies of the modulated ultrasonic carrier signal to steer, focus, or shape the sound beam projected by the directional loudspeaker("fig.1/(120);par [0023]").

Re claim 18, the system of claim 1 further including a fan configured to cool the system("fig.1/(130); par[0044]").

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Re claim 19, the system of claim 18 wherein the fan is activated automatically when a system temperature exceeds a predetermined level ("par[0044]/desired atmospheric conditions is maintained").

Re claim 22, Pompei disclose of a method of reproducing audio signals, comprising the steps of providing at least one audio signal by at least one audio source included in an electronic entertainment system, the at least one audio signal corresponding to at least one audio channel ("fig.1/(101-102);par[0022]; par[0006,0040]-inherently such a system with audio sources is an electronic entertainment system since system have **audible and steerable sound to be output** to be listened by a listener so as to be entertained"); generating an ultrasonic carrier signal modulated with the at least one audio signal by a modulated signal generator included in a directed acoustic sound system ("fig.1(112,114); par[0022-0024] line 7-9; par[0023,0035; 0004]"); amplifying the modulated ultrasonic carrier signal by a driver amplifier included in the directed acoustic sound system ("fig.1/(118);par[0023]"); receiving, by at least one directional loudspeaker included in the directed acoustic sound system, the modulated ultrasonic carrier signal amplified

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by the driver amplifier , the at least one directional loudspeaker including at least one acoustic transducer; and projecting, by the at least one directional loudspeaker, a sound beam representing the modulated ultrasonic carrier signal through a propagation medium along a pre-selected path; thereby reproducing the at least one audio signal and generating directional sound along at least a portion of the path("fig.1 (122); par [0023; 0033; 0039]/output signal along a certain directional path").

Re claims 23-24, 29-30 with respect to a method have been analyzed and rejected with respect to claim 2-3, 8-9 respectively.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 5-7, 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pompei ("US2001/0007591 A1") and further in view of Hirayanagi al. ("US 6,445,804 B1").

Re claim 5, the system of claim 1 with the directional loudspeaker, wherein the directional loudspeaker is a parametric array; wherein the system further includes a parametric array processor configured to control the parametric array (fig.1 (118,122); par[0038-0039]). However Pompei fail to disclose the system further including at least one sensor configured to detect a distance from the directional loudspeaker to a user of the system, wherein the parametric processor is configured to allow at least one parameter therefore to be adjusted based the detected distance from the directional loudspeaker to the user of the system. But, Hirayanagi et al. disclosed of a similar system wherein sound system wherein the sensor configured to detect a distance from the directional loudspeaker to a user of the system or to detect a position of the user relative to the system, wherein the parametric processor is configured to allow at least one parameter therefore to be adjusted based upon one or more of the detected distance from the directional loudspeaker to the user of the system, and the detected position of the user relative to the system (fig.1 (4); fig.2; col.3 line

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50-60; col.5 line 15-30/adjustment of speaker control based on distance position) for the purpose allowing the user to hear optimal high directional sound with listener movement. Thus, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have modified the combination with incorporating the limitation wherein sound system wherein the sensor configured to detect a distance from the directional loudspeaker to a user of the system or to detect a position of the user relative to the system, wherein the parametric processor is configured to allow at least one parameter therefore to be adjusted based upon one or more of the detected distance from the directional loudspeaker to the user of the system, and the detected position of the user relative to the system for the purpose allowing the user to hear optimal high directional sound with listener movement.

Re claim 6, the combined teaching of Pompei and Hirayanagi et al. as a whole, teach the system of claim 5, wherein the modulated signal generator is configured to generate an ultrasonic signal having characteristics based at least in part on the detected distance to the system user
("Pompei, fig.1 (112,114)").

Re claim 7, the system of claim 5 wherein the sensor comprises a device selected from the group consisting of an optical ranging device, an acoustic ranging device, and an infrared ranging device ("fig. 1-4; col.7 line 55-60").

Re claims 26-28 with respect to a method have been analyzed and rejected with respect to claim 5-7 respectively.

7. Claims 4, 10; 25; 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pompei ("US2001/0007591 A1") and further in view of Norris al.("US 6,229,899 B1").

Re claim 4, the system of claim 1 wherein the audio signals correspond to a plurality of audio channels, the plurality of audio channels being selected from the group consisting of a first channel, a second audio channel, a third audio channel, and a fourth audio channel ("fig.1-multiple audio channels (102-104) being generated corresponding to audio signals, signals channel being outputted at different locations by array transducers according to plurality of speakers (fig.2a);par[0029; 0033]"), and wherein the modulated signal generator is configured to combined the plurality of audio

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channels, and to generate the ultrasonic carrier signal modulated with the combined audio channels (fig.1 (110,112-4); page 2[0022] line 11-16), However, Pompei fail to explicitly disclosed the plurality of channel consisting to a first location in front of a user of the system, a second location in back of the system user, a third location to the left of the system user, to a fourth location to the right of the system user, But, Norris et al. disclose of a system wherein similar concept of having the plurality of channel consisting to a first location in front of a user of the system, a second location in back of the system user, a third location to the left of the system user, to a fourth location to the right of the system user (fig.1) for creating surround action scene effect around the user. Thus, it would have been obvious for one of the ordinary skill in the art to have modified the combination with the similar concept of having the plurality of channel consisting to a first location in front of a user of the system, a second location in back of the system user, a third location to the left of the system user, to a fourth location to the right of the system user for creating surround action scene effect around the user.

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Re claim 10, the system of claim 1, However, Pompei never limit the system to be selected from the group consisting of a television, a radio, an audio tape player, a phonograph, a compact disk player, a digital video disk player, a laser disk player, a video game, a desktop computer, a laptop computer, and an MP3 system. But, Norris et al. disclose of a system wherein the system to be selected from the group consisting of a television (fig.1; col.1 line 25-60/television with such speakers) for creating multiple virtual sources for creating sound effects with visual scenes. Thus, it would be obvious for one of the ordinary skill in the art to have modified the combination wherein the specific of having the system to be selected from the group consisting of a television for creating multiple virtual sources for creating sound effects with visual scenes.

The combined teaching of Pompei and Norris et al. as a whole, further disclose of the wherein the directional loudspeaker is configured to direct the sound beam along the preselected path toward a user of the system along a selected path (par [0008,0035]/focusing/steerable sound/sound to be directed at selected position area), But, the combined teaching of Pompei and Norris et al. as a whole, fail to disclose of the

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specific wherein direct sound, thereby preventing individual other than the system user from hearing sound produced by the system. But, it is noted it would have been obvious for one of the ordinary skill in the art to have modified such audio signal along selected path with further including the concept of the specific wherein direct sound, thereby preventing individual other than the system user from hearing sound with no unexpected result so as to similarly producing such optimal signal toward such selected user.

Re claim 31 with respect to a method have been analyzed and rejected with respect to claim 10 respectively.

Re claims 25 with respect to a method have been analyzed and rejected with respect to claim 4 respectively.

8. Claims 11; 13; 32; 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pompei ("US2001/0007591 A1") and further in view of Norris al. ("US 6,229,899 B1") and Dougherty (US 5,436,976).

Re claim 11, the system of claim 1, but, Pompei fail to disclose of the specific wherein further including a second

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amplifier and at least one non- directional loudspeaker, the second amplifier being configured to amplify one or more audio signals corresponding to at least one of the audio channels and to drive at least one non-directional loudspeaker and the non-directional loudspeaker being configured to generate omnidirectional sound.

But, Norris et al. disclose of a system wherein including an amplifier and at least one non- directional loudspeaker, the amplifier being configured to amplify one or more audio signals corresponding to at least one of the audio channels and to drive at least one non-directional loudspeaker (fig.1(30)/ combined parametric and conventional non-directional; col.4 line 25-60 & line 5-15) so as to generate the surround sound signals and eliminating troublesome wire connections for distant speakers. thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art with implementing such amplifier and at least one non- directional loudspeaker, the amplifier being configured to amplify one or more audio signals corresponding to at least one of the audio channels and to drive at least one non-directional loudspeaker so as to generate the surround sound signals and eliminating troublesome wire connections for distant speakers.

It would have been obvious for one of the ordinary skill in the art to have modified the amplifier with further including such specific as having a second amplifier with no unexpected result so as to similarly provide the increase/magnified signal to the speakers.

Although, the combined teaching of Pompei and Norris et al. as a whole, disclose of the non-directional loudspeaker as in (fig. 1(30)); but, they fail to disclose of such loudspeaker generating an omni-directional sound.

But, Dougherty disclose of a system wherein having a conventional speaker having loudspeaker generating an omni-directional sound (fig.8; col.2 line 18-25; col.3 line 5-15) so as to provide aural effect throughout the room. Thus, it would have been obvious for one of the ordinary skill in the art to have modified the combination with incorporating the loudspeaker generating an omni-directional sound so as to provide aural effect throughout the room.

The combined teaching of Pompei and Norris et al. and Dougherty as a whole, as modified would have teach of having

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such the modulated signal generator is connected in-line with the second amplifier (Pompei; fig.1 (101)) and wherein the modulated signal generator is configured to selectably generate the ultrasonic carrier signal modulated with the at least one of the audio signals; and wherein the second amplifier is configured to selectably amplify the one or more audio signals, thereby allowing the directional loudspeaker for generating directional sound and the non-directional loudspeaker for generating omni-directional sound to selectably reproduce the audio signals (fig.1(30; 21-22); col.4 line 25-60/having both the conventional with omni-directional and directional speakers may be used at same time)

Re claim 13, the system of claim 11 as modified; wherein the modulated signal generator is configured to receive the at least one audio channel and to provide a representation of the at least one audio channel to the second amplifier (fig.1 (118)).

Re claim 32 & 34 have been analyzed and rejected with respect to claim 11 & 13 respectively.

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9. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pompei ("US 2001/0007591 A1") and further in view of Andrews et al. (7,181,023 B1).

Re claim 16, Pompei discloses the system of claim 1, However, he fail to disclose the system further including a remote signal receiver and a remote control device configured to generate remote signals in response to a user input, wherein the remote signal receiver is configured to receive the remote signals and generate control signals for controlling a system characteristic selected from the group consisting of a volume setting, a tone setting, and an output switch selection. But, Andrews et al. discloses a system which include a remote signal receiver and a remote control device configured to generate remote signals in response to a user input, wherein the remote signal receiver is configured to receive the remote signals and generate control signals for controlling a system characteristic selected from the group consisting of a volume setting, a tone setting, and an output switch selection("fig.1-2 (17); col.1 line 25-35). Thus, taking the combined teaching of Pompei and Andrews et al. as a whole, it would have been obvious for one of ordinary skill in the art to modify Pompei by incorporating the remote signal receiver and a remote control device configured to generate remote signals in response to a

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user input, wherein the remote signal receiver is configured to receive the remote signals and generate control signals for controlling a system characteristic selected from the group consisting of a volume setting, a tone setting, and an output switch selection for the purpose of controlling the distance from distance away in the room.

Re claim 17, the system of claim 16 wherein the remote control device is selected from the group consisting of an optical remote control device, an acoustic remote control device, an infrared remote control device, and a radio frequency remote control device ("fig.1/17/sound").

10. Claims 15, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pompei ("US2001/0007591 A1").

Re claim 15, Pompei disclose the system of claim 1 with the modulated signal generator, However, He fail to disclose the modulated signal generator includes an independent volume control. However, official notice is taken the concept of having a signal generator or certain processor as having an independent volume control is well known in the art so as provide the user

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with manual control capability. Thus, it would have been obvious for one of the ordinary skill in the art to have modified the prior art with implementing such a signal generator or certain processor as having an independent volume control so as provide the user with manual control capability

Re claim 20, the system of claim 1, However, Pompei fail to disclose of the further including a swing-arm assembly to mount the directional loudspeaker to a ceiling, a floor, or a wall. However, it is noted it would have been obvious for one of the ordinary skills in the art to have modified the loudspeakers with further including a swing-arm assembly to mount the directional loudspeaker to a ceiling, a floor, or a wall based on the engineering design for providing sound directions speakers as being arranged toward the user.

Pompei as modified further disclose of the directing of the projected sound beam along the preselected path (par [0004, 0008]).

Re claim 21, the system of claim 1; However, Pompei fail to disclose of further including a clamp assembly configured to

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mount the directional loudspeaker to a ceiling, a floor, or a wall.

However, it is noted it would have been obvious for one of the ordinary skills in the art to have modified the loudspeakers with further including a clamp assembly configured to mount the directional loudspeaker to a ceiling, a floor, or a wall based on the engineering design for providing sound directions speakers as being arranged toward the user as desired.

Pompei as modified further disclose of the projected sound beam along the pre-selected path (par [0004, 0008]).

11. Claims 36, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pompei ("US 2001/0007591 A1") and Sasaki et al. (US 6,807,281 B1).

Re claim 36, Pompei disclose of a system, comprising: a receiver configured to receive information representative of at least one audio signal (fig.1 (106, 108); par [0022]/receiver to receive audio signal) and a directed acoustic sound system including: a modulated signal generator configured to generate an ultrasonic carrier signal modulated with the at least one audio signal (fig.1 (112, 114); par [0022]); a driver amplifier configured to

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amplify the modulated ultrasonic carrier signal (fig.1 (118);
par [0023]) and at least one directional loudspeaker, the
directional loudspeaker including at least one acoustic
transducer configured to receive the modulated ultrasonic
carrier signal amplified by the driver amplifier, and to project
a sound beam representing the modulated ultrasonic carrier
signal through a propagation medium along a pre-selected path,
thereby reproducing the at least one audio signal and generating
directional signal along at least a portion of the path ("fig.1
(122); par [0023; 0033; 0039]/output signal along a certain
directional path").

However, Pompei fail to disclose of such system with as
being a telephone system including a receiver configured to
receive information representative of at least one audio signal.
But, Sasaki et al. disclose of a system with directional speaker
wherein having such a telephone system including a receiver
configured to receive information representative of at least one
audio signal (fig.17; col.16 line 20-32/telephone with receiver
to receive audio signal and output such signal to listener) so
as to provide the user with audio communication. Thus, it would
have been obvious for one of the ordinary skills in the art to
have modified the prior art with implementing the telephone

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system including a receiver configured to receive information representative of at least one audio signal so as to provide the user with audio communication.

Re claim 41, Pompei disclose of a method of operating a telephone system, comprising the steps of: receiving information representative of at least one audio signal by a receiver (fig.1 (106, 108); par [0022]/receiver to receive audio signal); generating an ultrasonic carrier signal modulated with the at least one audio signal by a modulated signal generator included in a directed acoustic sound system (fig.1 (112, 114); par [0022]); amplifying the modulated ultrasonic carrier signal by a driver amplifier included in the directed acoustic sound system (fig.1 (118); par [0023]) and receiving the modulated ultrasonic carrier signal amplified by the driver amplifier by at least one directional loudspeaker included in the directed acoustic sound system, the at least one directional loudspeaker including at least one acoustic transducer; and projecting a sound beam representing the modulated ultrasonic carrier signal through a propagation medium along a pre-selected path by the directional loudspeaker, thereby reproducing the at least one audio signal and generating directional sound along at least a portion of the path ("fig.1 (122); par [0023; 0033; 0039]/output signal along a certain directional path").

However, Pompei fail to disclose of such receiving information representative of at least one audio signal by a receiver in a telephone system. But, Sasaki et al. disclose of a system with directional speaker wherein receiving information representative of at least one audio signal by a receiver in a telephone system (fig.17; col.16 line 20-32/telephone with receiver to receive audio signal and output such signal to listener) so as to provide the user with audio communication. Thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art with implementing receiving information representative of at least one audio signal by a receiver in a telephone system so as to provide the user with audio communication.

12. Claims 37; 39; 42; 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pompei ("US 2001/0007591 A1") and Sasaki et al. (US 6,807,281 B1) and further in view of Norris al. ("US 6,229,899 B1") and Dougherty (US 5,436,976).

Re claim 37, the system of claim 36, but, the combined teaching of Pompei and Sasaki et al. as a whole, fail to disclose of the specific wherein further including a second amplifier and at least one non- directional loudspeaker, the second amplifier

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being configured to amplify one or more audio signals corresponding to at least one of the audio channels and to drive at least one non-directional loudspeaker and the non-directional loudspeaker being configured to generate omni-directional sound.

But, Norris et al. disclose of a system wherein including an amplifier and at least one non-directional loudspeaker, the amplifier being configured to amplify one or more audio signals corresponding to at least one of the audio channels and to drive at least one non-directional loudspeaker (fig.1(30)/ combined parametric and conventional non-directional; col.4 line 25-60 & line 5-15) so as to generate the surround sound signals and eliminating troublesome wire connections for distant speakers. thus, it would have been obvious for one of the ordinary skills in the art to have modified the prior art with implementing such amplifier and at least one non-directional loudspeaker, the amplifier being configured to amplify one or more audio signals corresponding to at least one of the audio channels and to drive at least one non-directional loudspeaker so as to generate the surround sound signals and eliminating troublesome wire connections for distant speakers.

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It would have been obvious for one of the ordinary skill in the art to have modified the amplifier with further including such specific as having a second amplifier with no unexpected result so as to similarly provide the increase/magnified signal to the speakers.

Although, the combined teaching of Pompei and Sasaki and Norris et al. as a whole, disclose of the non-directional loudspeaker as in (fig. 1(30)); but, they fail to disclose of such loudspeaker generating an omni-directional sound.

But, Dougherty disclose of a system wherein having a conventional speaker having loudspeaker generating an omni-directional sound (fig.8; col.2 line 18-25; col.3 line 5-15) so as to provide aural effect throughout the room. Thus, it would have been obvious for one of the ordinary skill in the art to have modified the combination with incorporating the loudspeaker generating an omni-directional sound so as to provide aural effect throughout the room.

The combined teaching of Pompei and Sasaki and Norris et al. and Dougherty as a whole, as modified would have teach of having such the modulated signal generator is connected in-line

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with the second amplifier (Pompei; fig.1 (101)) and wherein the modulated signal generator is configured to selectably generate the ultrasonic carrier signal modulated with the at least one of the audio signals; and wherein the second amplifier is configured to selectably amplify the one or more audio signals, thereby allowing the directional loudspeaker for generating directional sound and the non-directional loudspeaker for generating omni-directional sound to selectably reproduce the audio signals (fig.1(30; 21-22); col.4 line 25-60/having both the conventional with omni-directional and directional speakers may be used at same time)

Re claim 39, the system of claim 37 as modified; wherein the modulated signal generator is configured to receive the at least one audio channel and to provide a representation of the at least one audio channel to the second amplifier (fig.1 (118) /having the amplifiers to generate such signals).

Similarly, Re claims 42; 44 have been analyzed and rejected with respect to claims 37, 39 respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-272-2222. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. P./
Examiner, Art Unit 2614